

*Sub 1*  
*Sub 2*  
~~The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:~~

- Sub 1*  
*Sub 2* 1. A modular building block (7C3) for use in a building system, said block having top and bottom surfaces, opposed interior and exterior sides, and opposed ends, said block having a recess extending from the top to bottom surfaces and inwardly at each end, said top and bottom surfaces being complementary in shape for interfitting, with one of said top and bottom surfaces having a ridge portion extending the length of said block and the other of said top and bottom surfaces having a groove portion complementary to said ridge portion, whereby when a plurality of said blocks are assembled horizontally and vertically with ridge portions and groove portions of vertically adjacent blocks interfitting to define a wall, said block end recesses define a plurality of vertically oriented ducts adapted to accept structural rods and mortar in selected ones of said ducts to form support columns, and to accept utility conduits in selected others of said ducts without rods and mortar characterized wherein said ridge portion and said groove portion are centrally located on said top and bottom surfaces and said block includes a first channel and a second channel on either side of said recesses along the top and bottom surfaces which channels extend from end to end generally parallel to but laterally inwardly of said interior and exterior surfaces and laterally outwardly of said ridge portion and said groove portion, said first channel

being inwardly of said exterior side of said block and said second channel being inwardly of said interior side, said first channel being smaller in cross section than said second channel and adapted to accommodate sealing means, and said second channel inward of said interior side adapted to accommodate a utility cable whereby when said blocks are assembled, said first channels of horizontally adjacent blocks define means for accommodating sealing means for sealing out weather elements, and said second channels of horizontally adjacent blocks define conduits for utility cables.

2. The modular block of claim 1 wherein there is a central through aperture from top to bottom in longitudinal alignment with said block end recesses.
3. The modular block of claim 1 or 2 wherein said block has at least one bore running vertically through the block between the second channel of the top surface and second channel of the bottom surface.
4. A modular building system for a building, including a visible foundation comprising structural beam elements (7B2) of reinforced concrete having a plurality of foundation rods (7B4) extending upwardly therefrom, a plurality of modular blocks (7C2) for forming walls of said building extending upwardly from said foundation beam elements, said blocks having vertical apertures therethrough and adapted to be assembled into said walls such that a plurality of vertical ducts are formed in said

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walls by the apertures of adjacently assembled blocks, wall rods (7B7) having upper and lower ends, the lower ends of said wall rods being connectable to said foundation beam rods (7B4) at selected locations thereof and adapted to extend upwardly through selected ones of said assembled wall ducts, at least some of the wall rods being of a height where the upper ends are exposed above an assembled wall, modular floor beams (7I1) and means (7B6) for connection of said floor beams to said visible foundation beam elements, and modular first ceiling beams (7I3) for extending between side walls of the building, said ceiling beams adapted for support and connection to said walls in association with the exposed upper ends of said at least some of said wall rods (7B7), and a roof structure (7G) formed of modular beams (7I3) for connection with said walls in association with the exposed upper ends of said at least some of said wall rods (7B7), characterized wherein means (7F2) demountably connects said roof structure to said walls whereby said roof structure is removable from an assembled building whereby said walls may be extended upwardly by additional said modular blocks (7C2) to form a second level, said first ceiling beams (7I3) forming support for modular flooring of said second level, and said roof structure (7G) can be mounted on said extended walls, and further comprising modular wall corner blocks (7C4), modular flooring (7I2), windows (7C11), doors (7K2) to complete and enclose said building according to a predetermined

design, and further characterized wherein said modular wall blocks (7C2) have top and bottom surfaces, opposed inner and outer sides and opposite ends, said top and bottom surfaces having complementary recess and protrusion configurations for interfitting vertically adjacent blocks, and wherein said modular wall blocks each have a channel in each of the top and bottom surfaces, each said channel being inwardly adjacent said outer side whereby when blocks are assembled to form a wall, said channels of adjacent blocks form a conduit for containing means to seal said walls from elements of weather.

5. The building system of claim 3 wherein each said modular block further have second channels in the top and bottom surfaces inwardly adjacent said inner side whereby when said blocks are assembled to form a wall, said second channels of adjacent blocks form means for selectively containing utility conduits for the building.

6. The building system of claim 5 wherein said block further has at least one bore running vertically through said block between said second channel of the top surface and the second channel of the bottom surface.

7. The building system of claim 3 wherein said roof structure (7G) includes vibration dampening beam supports (7F1) connected to said exposed upper ends of said at least some of said wall rods.

8. The building structure of claim 3 wherein said wall rods (7B7) have threaded ends (7I6) and further comprising, threaded connectors (7E) for extending said wall rods to selected lengths.

9. The building systems of claim 8 wherein each said visible foundation beam (7B2) includes a further rod (7B6.1) formed therewith, said further rod having an upper end for connection with a floor beam (7I1) through a threaded connector.

10. The building system of claim 9 further including means for connecting said modular floor unit to said floor beam.

11. The building system of claim 3 further including rubber bearing means (7B1) for separating said visible foundation beams from buried foundation (7A) means on which said visible foundation beams (7B) may be placed.

12. The building system of claim 3 wherein said roof structure (7G) is of "A" frame configuration and further includes space covers (7F9) for connection between adjacent beams (7I3) of said roof structure to cover spaces between said beams and said adjacent assembled wall, and further including facade elements (7H7) to close in ends of said roof structure.

13. In a method of constructing a building which can be expanded upwardly as desired, the steps comprising:

providing a plurality of visual foundation beams (7B2) to form a foundation for

the building, said foundation beams including foundation rods (7B4) extending upwardly therefrom at selected locations;

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providing a plurality of modular wall blocks (7C2) for assembly on said foundation beams in a selected configuration to form walls of said building, certain of said blocks being formed such that window and door apertures can be defined as desired, said modular wall blocks having vertically oriented apertures therethrough and assembled such as to define vertical ducts in an assembled wall;

providing a plurality of wall rods (7B7) and connection means (7E) for connecting said wall rods to said foundation rods, said wall rods extending upwardly through selected ones of said wall ducts, at least some of said wall rods having upper ends exposed above an assembled wall;

providing ceiling beam holder boxes (7I4) having means for connection with said exposed upper wall rod ends, of opposed side walls of said building;

providing ceiling beams for cooperation with said ceiling beam holder boxes and means to connect said beams to said beam holder boxes;

providing a demountable roof structure (7G) for connection to assembled building walls, through connector means (7F1, 7F10) and said exposed upper wall rod ends, whereby said building can be upwardly expanded by removing said roof structure and extending said wall rods and walls upwardly to define a second storey

on which said roof is again detachably mounted.

14. The building method of claim 13 wherein said roof structures are of "A" frame configuration and further comprises providing an "A" frame shaped facade (7H7) for closing front and back portions of said roof structure and providing means for connecting said facades to said roof structure.

15. The building method of claim 13 further comprising providing floor beams (7I1) and providing means (7B6.1) for securing said beams to visible foundation beams, said means for securing comprising additional rods formed with said foundation beam and extending upwardly for connection with said floor beam.

16. The building method of claim 15 further including providing floor modular units (7I2) for forming a floor and providing means for connecting said floor modular unit to said floor beams (7I1).

17. The building method of claim 16 wherein when said building is expanded upwardly, providing additional ceiling beams (7I3) for the extended walls, providing additional flooring modulars (7I2) for connection with the first ceiling beams, providing staircase means (7J1) between said first level and said additional level, and providing additional window units (7C11) in accordance with a predetermined design for said second storey.